Accessories

10G Module

EM-412



- 2-slot CX4 10G module
- Extended 10G module of MI-7526F/XGS-4528F/XGS-4526

EM-422



- 2-slot XFP 10G fiber module
- Extended 10G module of MI-7526F/XGS-4528F/XGS-4526 (requires purchase of 10G XFP transceivers)

Media Converter

MC1000-SFP-FP



- 1000Base-T RJ-45 to Gigabit fiber
- Fiber protection mechanism
- 1 mini-GBIC SFP slot for flexible choice of SFP
- Multimode and singlemode supported
- Up to 80 km reach (depends on mini-GBIC SFP)
- Max. power consumption: 9.6 watt
- Dimensions: 194 (W) x 129 (D) x 25 (H) mm

MC100FX-SC30-A



- 10/100Base-TX RJ-45 to 100FX singlemode
- For use with singlemode Fiber, SC connector
- Up to 30 km reach
- Max. power consumption: 2.4 watt
- Dimensions: 74 (W) x 110 (D) x 24 (H) mm

MC100FX-SC2-A



- 10/100Base-TX RJ-45 to 100FX multimode
- For use with multimode fiber, SC connector
- Up to 2 km reach
- Max. power consumption: 2.4 watt
- Dimensions: 74 (W) x 110 (D) x 24 (H) mm

PoE Injector

POE-12



- IEEE 802.3af 15.4 watt PoE injector
- Fanless design, noiseless
- Max. power consumption: 17.3 watt

Backup Power System

BPS-120



- Up to 6 switches from the 4500/4000/3000 series can be connected to one BPS-120
- Provides power to one switch without traffic or user interruption or switch rebooting in the event of a switch internal power supply failure
- Temperature, power and fan speed monitoring
- Max. power consumption: 180 watt/613 BTU/hr
- Dimensions: 440 (W) x 270 (D) x 44.45 (H) mm

External PoE Power

PPS250



- RoHS compliant, green product
- Provision of more/external PoE power budget (225 W)

SFP Transceiver



- Industry standard compliance
- SFP MSA (Multi-Source Agreement) compliance
- Hot-pluggable with maximum flexibility
- Compact size, high port density
- Low power dissipation
- Support DDMI (Digital Diagnostics Monitoring Interface) features

Specifications

Transceiver Class	10 Gigabit XFP			Gigabit SFP							Fast Ethernet SFP				
	FTLX8511D3 (XFP-SR)	FTLX1611M3 (XFS-ER)	FTLX1412D3BCL (XFP-LR)	SFP-1000T	SFP-SX-D	SFP-LX-10-D	SFP-BX1310-10-D	SFP-BX1490-10-D	SFP-LHX1310-40-D	SFP-ZX-80-D	SFP-100FX-2	SFP-100TX	SFP-100LX-20	SFP-100BX1310-20-D	SFP-100BX1550-20-D
Connector	LC	LC	LC	RJ-45	LC	LC	LC	LC	LC	LC	LC	RJ-45	LC	LC	LC
Wavelength	850 nm	1550 nm	1310 nm	-	850 nm	1310 nm	1310 nm (TX) 1490 nm (RX)	1490 nm (TX) 1310 nm (RX)	1310 nm	1550 nm	1550 nm	-	1310 nm	1310 nm (TX) 1550 nm (RX)	1550 nm (TX) 1310 nm (RX)
Max Transmission Distance	300 m	40 km	10 km	100 m	550 m	10 km	10 km	10 km	40 km	80 km	2 km	-	20 km	20 km	20 km
Support DDMI Features	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes	Yes

For more product information, visit us on the web at www.ZyXEL.com

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65-100-0000668 02/10



LAN Switches
Quick Sales Guide

Modular Switch Quick Finder

- Max. 384 Gbps non-blocking switching fabric, 286 Mpps forwarding rate
- 6 slots (two for management and four for I/O modules), 10U height hardware architecture
- Hot-swappable I/O modules, power supply and fan trays secure network reliability along with easy operation and maintenance
- Intelligent QoS and traffic control for enhanced availability
- Extended L3 routing and L2 switching functions for highest performance



MS-7206S
Switch chassis with 6 slots, including fan module (MF-7201)

MS-7206 PoE starter kit
consists of: 1x MS-7206S, 1 x MI-7248PWR, 1 x MM-7201, 1 x MP-7201, 1 x MP-7202

MS-7206 fibre starter kit
consisting of: 1 x MS-7206S, 1 x MI-7248TF, 1 x MM-7201, 1 x MP-7201



MM-7201
Switch fabric and management module for MS-7206S



MI-7248
48 x 1 Gbit-Base-T port I/O module for MS-7206S



MI-7248TF
24 x 1 Gbit-Base-T port and 24 x 1 Gbit SFP slots I/O module for MS-7206S



MI-7248PWR
48 x 1 Gbit-Base-T port I/O module with Power over Ethernet support for MS-7206S



MI-7526F
20 x 1 Gbit SFP slots, 4 x Gbit dual personality port (Base-T/SFP), and 1 x 2-port 10 Gbit open slot I/O module for MS-7206S



MF-7201
Fan module for MS-7206S



MP-7202
External PoE supply with 750 W, for MS-7206S



MP-7201
Power supply module 600 W, for MS-7206S



MPC-7202
Connecting module for external PoE power supply



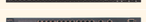
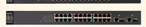
EM-412
2 port CX4 module



EM-422
2 port XFP module

System Capacity	• Switch Fabric Slot: 2 • I/O Module Slot: 4 • Power Supply Unit Slot: 2 • Fan Module Slot: 1		
Performance	• Switching Fabric: 384 Gbps • Forwarding Rate: 286 Mbps		
Max Port Density	• 1000Base-T: 192 • 1000Base-T with PoE: 192 (4 x MI-7248PWR) • 1000 SFP: 96 • 10G: 8 (4 x MI-7526F + 4 EM-412/EM-422)		
Resilience and Availability	• IEEE 802.1D STP/802.1w RSTP/802.1s MSTP • Redundant Power supply support • Switch Fabric High Availability	• VRRP • MRSTP • Dual Configuration Files	• Swappable Fan module • IEEE 802.3ad LACP (max # trunks/links per trunk): 24/8
Traffic Control	• 4K static VLAN/4K dynamic VLAN • 802.1ad VLAN Stacking (QinQ) • BPDU Transparency • GVRP • VLAN Trunking		
Security	• 802.1x • Intrusion Lock • MAC Filtering • MAC Freeze	• Port Isolation • Port Security • SSH v1/v2 • SSL	• Static MAC Forwarding • ACL (L2/L3/L4) Security Filtering
Management	• iStacking • Web Interface • CLI • Syslog • Daylight Saving	• RMON (1, 2, 3, 9) • Port Mirroring • NTP • DHCP Relay per VLAN • RJ-45 Out-of-band Management Port	• DHCP Option 82 • DHCP Client (Management) • RS-232 Out-of-band Console Port • SNMP v1, v2c, v3 • 802.3af PoE Support • Jumbo Frame Support on Gigabit Ports

Fixed-Port Switches Quick Finder

L3 Managed	4500 Series	Gigabit Ethernet with 10G Uplink	XGS-4526	
			XGS-4528F	
	4000 Series	Gigabit Ethernet	GS-4024	
		Fast Ethernet	ES-4124	
L2 Managed	2200 Series	Gigabit Ethernet	GS2200-24	
			GS2200-24P	
			GS2200-48	
	3000 Series	Fast Ethernet	ES-3124	
			ES-3124PWR	
			ES-3148	
	2000 Series	Fast Ethernet	ES-2024A	
			ES-2024PWR	
			ES-2108	
			ES-2108-G	
			ES-2108PWR	
Web Managed	1500 Series—PoE	Gigabit Ethernet	GS1500-24P	
	1500 Series	Gigabit Ethernet	GS-1524	
			GS-1548	
		Fast Ethernet	ES-1528	
			ES-1552	
Unmanaged	1100 Series	Gigabit Ethernet	GS1100-16	
			GS1100-24	
	1000 Series	Gigabit Ethernet	GS-1116A	
			GS-1124A	
			GS-1124B	
		Fast Ethernet	ES-1024B	
			ES-1124	
	100 Series	Fast Ethernet	ES-116P	
			ES-124P	

Model Name	Ports	Key Features
XGS-4526	20-port 1000Base-T 4 dual personality GbE ports 1 optional 2-port 10G open slot	• Slot for 2-port 10 Gbit module • Extended L3 routing and L2 switching functions for highest performance • Multilayer-aware (L2/L3/L4) ACL for Security Protection and Traffic Optimization • Port Security and Enhanced 802.1x Port Authentication • 8 IEEE 802.1p hardware priority queues • BPS support
XGS-4528F	24 dual personality GbE ports 2 12G stacking ports 1 optional 2-port 10G open slot	
GS-4024	20-port 1000Base-T 4 dual personality GbE ports	• High-Performance wire-speed switching and IP routing • High-security for business-critical applications • Advanced routing protocol (OSPF, RIP, VRRP and DVMRP) • High redundancy and resilience architecture with RSTP, VRRP and Port Trunking
ES-4124	24-port 10/100Base-TX 2-port 1000Base-T 2 dual personality GbE ports	• Empowering Converged Network for SME • Secure Multi-Service Delivery Quality • Enhanced Multi-layer Security Protection • Advanced routing protocol (OSPF, RIP, VRRP and DVMRP)
GS2200-24	24-port 1000Base-T 4 dual personality GbE ports	
GS2200-24P	24-port 1000Base-T PoE 4 dual personality GbE ports	• Port security and enhanced 802.1x port authentication • MAC freeze and intrusion lock • 8 IEEE 802.1p hardware priority queues • WFQ, WRR and SPQ queuing algorithms • MVR and IGMP snooping for IP multicasting optimization • Easy Web GUI for intelligent PoE management (only GS2200-24P)
GS2200-48	44-port 1000Base-T PoE 2 GbE SFP open slot 4 dual personality GbE ports	
ES-3124	24-port 10/100Base-TX 2-port 1000Base-T 2 dual personality GbE ports	• Robust High-Availability system design • Strengthened service management and control • IEEE 802.1s MSTP and IEEE 802.1w RSTP enable fast recovery networks • Policy-based QoS empowered by (L2/L3/L4) ACL • VLAN Stacking (Q-in-Q) support for L2VPN • Backup Power System (BPS) extends network up time • Easy Web GUI for intelligent PoE management (only ES-3124PWR)
ES-3124PWR	24-port 10/100Base-TX PoE 2-port 1000Base-T 2 dual personality GbE ports	
ES-3148	48-port 10/100Base-TX 2-port 1000Base-T 2 dual personality GbE ports	
ES-2024A	24-port 10/100Base-TX 2 dual personality GbE ports	• Port-based and 802.1Q-tagged VLAN (4K PVID) • MAC filtering, freeze and specific MAC forwarding • Port security and enhanced 802.1x port authentication • WFQ Queuing Algorithms • MVR and IGMP snooping for IP multicasting optimization • Easy Web GUI for intelligent PoE management (only ES-2024PWR)
ES-2024PWR	24-port 10/100Base-TX PoE 2 dual personality GbE ports	
ES-2108	8-port 10/100Base-TX	• Fan-less hardware design (ES-2108/ES-2108-G) • Traffic prioritizing of Intelligent QoS and bandwidth increment of 64 Kbps optimize service quality of application and utilization of bandwidth • MVR enables IP multicasting applications across multiple VLANs environments • Port-based and 802.1Q-tagged VLAN (4K PVID) • MAC filtering/forwarding and MAC freeze
ES-2108-G	8-port 10/100Base-TX 1 dual personality GbE ports	
ES-2108PWR	8-port 10/100Base-TX PoE 1 dual personality GbE ports	
GS1500-24P	24-port 1000Base-T PoE 4 dual personality GbE ports	• Intuitive and Streamlined Web-based Management Interface • 8 IEEE 802.1p hardware priority queues • WRR, WFQ and SPQ Queuing Algorithms • Easy Web GUI for intelligent PoE management
GS-1524	20-port 1000Base-T 4 dual personality GbE ports	
GS-1548	44-port 1000Base-T 4 dual personality GbE ports	• Robust system design • Intuitive and Streamlined Web-based Management Interface • Auto DoS attack prevention • Auto VoIP optimization • Port security • 4 IEEE 802.1p hardware priority queues • WRR and SPQ queuing algorithms
ES-1528	24-port 10/100Base-TX 2-port 1000Base-T 2 GbE SFP open slot	
ES-1552	48-port 10/100Base-TX 2-port 1000Base-T 2 GbE SFP open slot	
GS1100-16	16-port 1000Base-T	• Non-blocking, wire-speed transmission • Supports auto-MDI/MDI-X • EEE standards complied
GS1100-24	24-port 1000Base-T 2 GbE SFP open slot	
GS-1116A	14-port 1000Base-T 2 dual personality GbE ports	
GS-1124A	22-port 1000Base-T 2 dual personality GbE ports	• Non-blocking full wire speed forwarding • Data flow control for better transmission reliability • Forwards and filters packets at non-blocking, full wire-speed • Auto MDI/MDI-X support
GS-1124B	24-port 1000Base-T	
ES-1024B	24-port 10/100Base-TX	
ES-1124	24-port 10/100Base-TX 2 dual personality GbE ports	
ES-116P	16-port 10/100Base-TX	• 3.2/4.8 Gbps non-blocking switching fabric; 2.4/3.6 Mpps forwarding rate • 8K MAC address table
ES-124P	24-port 10/100Base-TX	• Suitable for desktop and rack-mount installation

LAN Switches Features Matrix

Model No.	Switch 4500 Series		Switch 4000 Series		Switch 3000 Series			Switch 2200 Series			Switch 2000 Series				
	XGS-4526	XGS-4528F	GS-4024	ES-4124	ES-3124	ES-3124 PWR	ES-3148	GS2200-24	GS2200-24P	GS2200-48	ES-2024A	ES-2024 PWR	ES-2108	ES-2108-G	ES-2108 PWR
Switch Class	Layer 3	Layer 3	Layer 3	Layer 3	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2
Hardware															
100 Mbit RJ45 Ports	-	-	-	24	24	-	48	-	-	-	24	-	8	8	-
100 Mbit RJ45 PoE Ports	-	-	-	-	-	24	-	-	-	-	-	24	-	-	8
1 Gigabit RJ45 Ports	20	-	20	2	2	2	2	24	-	44	-	-	-	-	-
1 Gigabit RJ45 PoE Ports	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-
1 Gigabit SFP Slots	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
Dual Personality Gigabit Ports (RJ45/SFP)	4	24	4	2	2	2	2	4	4	4	2	2	-	1	1
12 Gigabit CX4 Ports	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Gigabit Open Slots	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Wire-speed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Backplane Bandwidth (Gbps)	96	144	48	12.8	12.8	12.8	17.6	56	56	100	8.8	8.8	1.6	3.6	3.6
Forwarding Rate (Mbps)	71.4	100	35.7	9.6	9.6	9.6	13.1	41.7	41.7	74.4	6.6	6.6	1.3	2.7	2.7
MAC Addresses	8000	8000	16000	16000	16000	16000	16000	16000	16000	8000	8000	8000	8000	8000	8000
Management															
CLI, Web, GUI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
iStacking (Single IP Management)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Out-of-band Management Port	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes	-	-	-	-	-
Routing/Redundancy															
OSPF	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-
RIP v1, v2	Yes	Yes	Yes	Yes	-	-	-	-	-	Yes	-	-	-	-	-
Static IP Routing	Yes	Yes	Yes	Yes	-	-	-	-	-	Yes	-	-	-	-	-
VRRP	Yes	Yes	Yes	Yes	-	-	-	-	-	Yes	-	-	-	-	-
Spanning Tree (STP/MSTP/RSTP)	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Backup Power Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes	-	-	-	-	-
Quality of Service															
Priority Queues	8	8	8	8	8	8	8	8	8	8	4	4	4	4	4
Data Prioritization (SPQ/WRR/WFQ)	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/-	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/-	Yes/Yes/-	Yes/Yes/-	Yes/Yes/-	Yes/Yes/-
ACL Data Prioritization (L2/L3/L4)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-
IGMP Snooping (v1/v2/v3)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MVR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Jumbo Frame Forwarding	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-
DVMRP	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-	-	-	-
802.1p Class of Service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Security															
MAC Freeze/ Intrusion Lock	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
802.1x Authentication	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TACACS+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ACL Security Filter L2/L3/L4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-	-
RADIUS MAC Login	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VLAN Stacking (Q-in-Q)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-	Yes	-	-	-	-	-

Model No.	Switch 1500 Series				Switch 1500 Series — PoE	Switch 1100 Series		Switch 1000 Series				
	GS-1524	GS-1548	GS-1528	ES-1552	GS1500-24P	GS1100-16	GS1100-24	GS-1116A	GS-1124A	GS-1124B	ES-1024B	ES-1124
Switch Class	Web-managed	Web-managed	Web-managed	Web-managed	Web-managed	Unmanaged	Unmanaged	Unmanaged	Unmanaged	Unmanaged	Unmanaged	Unmanaged
Hardware												
100 Mbit RJ45 Ports	-	-	24	48	-	-	-	-	-	24	24	-
1 Gigabit RJ45 Ports	20	44	2	2	-	16	24	14	22	24	-	-
1 Gigabit RJ45 PoE Ports	-	-	-	-	24	-	-	-	-	-	-	-
1 Gigabit SFP Slots	-	-	2	2	-	-	2	-	-	-	-	-
Dual Personality Gigabit Ports (RJ45/SFP)	4	4	-	-	4	-	-	2	2	-	-	2
Wire-speed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Backplane Bandwidth (Gbps)	48	96	12.8	17.6	56	32	52	32	48	48	4.8	8.8
Forwarding Rate (Mbps)	35.7	71.4	9.6	13.1	41.67	23.8	38.7	23.8	35.7	35.7	3.6	6.6
MAC Addresses	8000	8000	8000	8000	16000	8000	8000	8000	8000	8000	8000	8000
Management												
CLI, Web, GUI	GUI	GUI	GUI	GUI	GUI	-	-	-	-	-	-	-
SNMP	SNMPv1, v2c	SNMPv1, v2c	SNMPv1, v2c	SNMPv1, v2c	SNMPv1, v2c, v3	-	-	-	-	-	-	-
RMON (1, 2, 3, 9)	RMON_Lite	RMON_Lite	RMON_Lite	RMON_Lite	RMON	-	-	-	-	-	-	-
Routing/Redundancy												
Spanning Tree (STP/MSTP/RSTP)	-	-	-	-	Yes/-/Yes	-	-	-	-	-	-	-
Quality of Service												
Priority Queues	4	4	4	4	8	-	-	-	-	-	-	-
Data Prioritization (SPQ/WRR/WFQ)	Yes/Yes/-	Yes/Yes/-	Yes/Yes/-	Yes/Yes/-	Yes/Yes/Yes	-	-	-	-	-	-	-
Jumbo Frame Forwarding	Yes	Yes	-	-	Yes	Yes	Yes	Yes	Yes	Yes	-	-
802.1p Class of Service	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-	-
Broadcast Storm Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Security												
802.1x Authentication	-	-	-	-	Yes	-	-	-	-	-	-	-
Special Features												
AutoDoS Prevention	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-
AutoVoIP	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-
Fanless	-	-	Yes	Yes	-	Yes	Yes	-	-	Yes	Yes	Yes
EEE	-	-	-	-	-	Yes	Yes	-	-	-	-	-